

REMARKS

Claims 1 to 97 are the pending claims being examined in the application, of which Claims 1, 34, 39, 59 and 93 are independent. Reconsideration and further examination are respectfully requested.

AS an initial matter the Applicant respectfully repeats the request that the Examiner confirm that she has considered EP 1,050,833 listed in the PTO Form 1449 signed and dated by the Examiner on January 10, 2004, and that she has considered U.S. Publication No. 2003/0028796 listed on the PTO Form SB08 numbered as page 8, which was signed and dated by the Examiner on March 1, 2007.

Claims 1, 39 and 59 are rejected under 35 U.S.C. § 112, first paragraph. The Examiner contends that the element “relative to all of the user logs’ has insufficient antecedent basis in the claim.” The Examiner further contends that it is unclear if the Applicant is claiming that the scoring for each user log is responsive to a frequency of occurrence of the at least one query item identifier in the user log and is also responsive to the frequency of occurrence of the at least one query item identifier relative to all of the user logs and a query weight for the at least one query item identifier in the query. The Examiner contends that the claim recites generating “a log for each user” and therefore it is unclear how the scoring can be responsive to all the user logs if there is only one log for each user.

In response, the Applicant respectfully submits that the claim language is more than sufficiently clear and unambiguous. With reference to Claim 1, item selections detected from a plurality of users are accepted, a user log is generated for each user, and each of the generated user logs is scored. It is clear that “the user logs” in the limitation “relative to all of the user logs” refers to the user logs that are generated for the plurality of users, i.e., one log for each user, and further refers to the user logs that are being scored. Furthermore, the claim language clearly recites that the scoring for each user log is “responsive to a frequency of occurrence ... in the user log, a frequency of occurrence ... relative to all of the user logs and a query weight....” It is further submitted that there is more than sufficient support for these claim limitations, including the limitation that scoring is responsive to a frequency of occurrence of a query item relative to all of the user logs. As one example of support, the Applicant respectfully provides the following, and refers the Examiner to the originally-filed application commencing at

paragraph [0226], which includes a description with reference to at least one embodiment in which a user log score is responsive to a frequency of occurrence of at least one query item in the user's play log, a frequency of occurrence of the at least one query item relative to all of the user logs, and a query weight, q_j , for the at least one query item in the query. With reference to paragraph [0242] of the originally-filed application, in accordance with one or more embodiments, a score for a user play log, i , can be determined as follows:

$$[0242] \quad score_i = \sum_j w_{ij} q_j$$

In paragraph [0242] of the originally-filed application, a score of a user's play log, i , can be determined as a sum of a product determined for each track, j , of a weighting, w_{ij} , and a query weight, q_j . In accordance with one or more embodiments, w_{ij} , comprises a product of weights, as shown in paragraph [0239] of the originally-filed application reproduced below:

$$[0239] \quad w_{ij} = \alpha \beta \chi$$

As is described in the originally-filed application commencing at paragraph [0226], α represents the number of occurrences of the track, j , in the user's play log, β , represents the frequency of the track, j , within all users' play logs, and the third weighting factor, χ , is a normalizing factor that can take into account a play log's length, which normalizing factor can be set to a constant of 1. As is further described at paragraph [0241] of the originally-filed application, q_i , is a query weight that represents the number of occurrences of track, j , in a query, q . Based on at least these portions of the originally-filed application, in accordance with one or more embodiments, a score for a user's play log, i , is responsive to a frequency of occurrence, α , of at least one query item, j , in the user's play log, a frequency of occurrence, β , of the at least one query item relative to all of the user logs, and a query weight, q_j , for the at least one query item in the query. It is submitted that the originally-filed application provides more than ample support for the language of Claims 1, 39 and 59, and further that the claim language is sufficiently clear on its face. Reconsideration and withdrawal of the 35 U.S.C. § 112, first paragraph rejection of Claims 1, 39 and 59 are therefore respectfully requested.

By the Office Action, Claims 1, 4 to 14, 17 to 27, 32, 33, 39, 42 to 45, 48 to 59, 62 to 72, 75 to 85, 91 and 92 are rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,438,579 (Hosken '579), Claims 2, 3, 28 to 31, 34 to 38, 40, 41, 60, 61, 86 to 90 and 93 to 97 are rejected

under 35 U.S.C. § 103(a) over Hosken '579 and U.S. Patent No. 6,430,539 (Lazarus), and Claims 15, 16, 46, 47, 73 and 74 under 35 U.S.C. § 103(a) over Hosken and U.S. Patent No. 6,526,411 (Ward). Reconsideration and withdrawal of the rejections are respectfully requested for at least the following reasons.

The record is clear that Hosken '579 was filed after the effective filing date of the present application, and that Hosken '579 can only be prior art if it is shown to be entitled to the benefit of the filing date of U.S. Provisional Application No. 60/144,377 (the '377 Hosken provisional). As Applicant has previously pointed out, in order for Hosken '579 to be prior art, there must be a showing that Hosken '579 is entitled to the filing date of the '377 Hosken provisional. Reference is respectfully made to MPEP § 2136.03(III), which states in relevant part:

"[t]he 35 U.S.C. 102(e) critical reference date of a U.S. patent or U.S. application publications and certain international application publications entitled to the benefit of the filing date of a provisional application under 35 U.S.C. 119(e) is the filing date of the provisional application with certain exceptions >if the provisional application(s) properly supports the subject matter relied upon to make the rejection in compliance with 35 U.S.C. 112, first paragraph.<" (Emphasis in original.)

The first paragraph of 35 U.S.C. 112 referenced in MPEP § 2136.03(III) states:

"[t]he specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention."

Hosken '579, and the portions of Hosken '579 relied upon to reject the claims of the present application, can only be entitled to the filing date of the '377 Hosken provisional if the '377 Hosken provisional provides § 112, first paragraph support, i.e., support which satisfies the

written description, enablement and best mode requirements, for the portions of Hosken '579 relied upon to reject the claims of the present application. Without such a showing, Hosken '579 cannot be prior art to the claims of the present application.

The Examiner concedes that Hosken discloses more than the '377 Hosken provisional application, and further concedes that the '377 Hosken provisional could not formally be used against the claims of the present application. The Applicant submits that the portions of Hosken '579 that admittedly disclose more than the '377 Hosken provisional cannot claim the benefit of the '377 Hosken provisional, and these portions of Hosken '579 cannot be relied upon to reject the claims of the present invention. The concessions made in the Office Action provide even more justification for Applicant's repeated requests that the Examiner confirm that those portions of Hosken '579 that the Examiner is using to reject the claims of the present application are supported by an enabling description provided by the '377 Hosken provisional, or alternatively withdraw the §§ 102(e) and 103(a) rejections of the claims.

In the current Office Action, the Examiner has eliminated some of the portions of Hosken previously relied upon to reject Claims 1, 39 and 59, i.e., the Examiner now only relies on col. 3, lines 15 to 33 and col. 14, lines 13 to 20 of Hosken to reject Claims 1, 39 and 59. In her grounds for rejecting Claims 1, 39 and 59, the Examiner also cites Figure 1 and page 6, paragraphs 1 to 5 in her rejection of Claims 1, 39 and 59. The Examiner is respectfully requested to clarify whether she is citing the portions of the '377 Hosken provisional against Claims 1, 39 and 59, and to further clarify whether she considers page 6, paragraph 1 to 5 of the '377 Hosken provisional to provide the requisite showing of § 112 support for col. 3, lines 15 to 33 and col. 14, lines 13 to 20 of Hosken. The Examiner is requested to provide similar clarification for each reference to the '377 Hosken provisional made by the Examiner in her grounds for rejection of the other claims, should the Examiner maintain her current rejection.

It is clear from MPEP § 2136.03(III) that the burden lies with the Examiner to provide a showing. In the interest of advancing prosecution, although not intended to be an exhaustive and complete listing, the Applicant provides the following examples of Hosken '579 taken from the cited portions of Hosken '579 which the Applicant believes lack an enabling description in the '377 Hosken provisional.

At col. 5, lines 20-62, Hosken '579 refers to "individual and collaborative profiles", while the '377 Hosken provisional only refers to a user profile. This portion of Hosken '579 further describes that a user's navigation of a presented recommendation set and the user actions in reviewing and considering individual and groups of media content items are utilized in the progressive modification and refinement of the profiles data, however, the '377 Hosken provisional fails to provide a description, enabling or otherwise, of progressively modifying and refining profiles data based on a user's navigation of a presented recommendation set. Furthermore, the '377 Hosken provisional fails to provide a description, enabling or otherwise, as to how a user action is even reflected in a user profile. The '377 Hosken provisional states that a user profile consists of a content item and the content item's rating. The '377 Hosken provisional fails to provide a description, enabling or otherwise, as to how a content item rating is defined other than by a user expressly providing the rating. The '377 Hosken provisional lacks any description as to how implicit behavior, a user action, or information other than a user's express input of a rating, is used to generate a rating for a content item. In addition, nothing in the '377 Hosken provisional provides any description, enabling or otherwise, of how implicit behavior or a user action identifies the content item. The discussion found at col. 5, lines 20 to 62 of Hosken '579 also refers to deriving "other information" from "periods of user non-action. In this same discussion, Hosken '579 suggests that "the time spent by a user" to review information or listen to a music clip provides implicit information regarding the interest level of the user. Nothing can be found in the '377 Hosken provisional that provides enabling support for deriving information from periods of user non-action, determining an amount of time spent by a user in a non-action, let alone a determined amount of time spent by a user providing implicit information.

With regard to Claims 4 to 11, 42 to 45 and 62 to 69 of the present application, the Office Action cites col. 12, line 38 to col. 13, line 30 of Hosken '579. The portion of Hosken '579 commencing at col. 12, line 38 describes a referral system that operates as a graph traversal system over a data set constructed from a user profile and the product of a final weighting filter. The referral system traverses the binary relationships between characterizing attributes (i.e., "Track₁→Artist₁→Genre_A→Artist₂→Tracks₂→Collection_x", as provided in Hosken '579) to compute a final rating and confidence based on a weighted rating and confidence associated with

each step traversed, and uses a final weighting filter to apply an empirical normalization to weighting values. To highlight just some, but in no way all, of the examples of the lack of enabling support for Hosken's '579 referral system, the '377 Hosken provisional lacks any enabling description of the referral system described in Hosken '579, including lacking an enabling description of traversing a graph, assigning weighted ratings and confidence levels to steps in a traversal, computing a final rating and confidence level for a traversal, and/or using a final weighting filter to apply an empirical normalization to weighting values.

With regard to Claims 12 and 13 of the present application, the Office Action cites col. 4, lines 11 to 55 and col. 5, lines 20 to 62 of Hosken '579. In addition to the discussion provided above, col. 4, lines 11 to 55, Hosken '579 mentions the referral system that derives implicit profiling data, without any description of how the referral system derives implicit profiling data. The '377 Hosken provisional also lacks any enabling disclosure as to how implicit profiling data is derived.

Based at least on the above and the concessions made in the Office Action, the Applicant respectfully submits that there are significant portions of Hosken '579 relied upon by the Examiner to reject the claims of the present application which are not supported or enabled by the disclosure of the '377 Hosken provisional. Since the grounds for rejection of the pending claims relies on portions of Hosken '579 for which there is no enabling disclosure provided by the '377 Hosken provisional, a rejection so based is improper and should be withdrawn. Applicant therefore respectfully requests withdrawal of the §§ 102(e) and 103(a) rejections of the pending claims, in accordance with MPEP § 2136.03(III) and 35 U.S.C. § 112, first paragraph.

Furthermore and while Hosken '579, at col. 13, line 34 to col. 16, line 54, appears to reproduce examples taken from page 7, line to page 12, line 28 of the '377 Hosken provisional, these examples fail to teach, suggest or disclose each and every element of the claims. Therefore, these examples cannot form the basis of a proper § 102 rejection or a § 103(a) rejection.

Turning to the language of Claim 1, a method is recited which includes accepting item selections detected from a plurality of users, generating a log for each user, each log containing identifiers corresponding to detected user item selections, scoring each of the user logs, the scoring for each user log being responsive to a frequency of occurrence of the at least one query

item identifier in the user log, a frequency of occurrence of the at least one query item identifier relative to all of the user logs and a query weight for the at least one query item identifier in the query, so as to generate a user log score for each user log based exclusively on detected user item selections and the at least one query item, and determining at least one result item responsive to the scoring of the user logs, so as to discover at least one relationship based exclusively on detected user item selections and the at least one query item.

The '377 Hosken provisional identifies a user profile as consisting of information identifying a music item and a user's explicit rating for the music item. The '377 Hosken provisional lacks any disclosure, enabling or otherwise, as to how user profile information or user profile rating information, is derived from implicit observation of users' action. The '377 provisional fails to provide any disclosure that would enable one of ordinary skill to use observed behavior, or ratings information derived from observed behavior, to make a recommendation.

In response to the Applicant's previous remarks, the Examiner contends that Figures 1 to 5 and pages 5 and 8 to 12, of the '377 Hosken provisional provides "ample disclosure and enablement on how the user implicit observation is used to provide [a] recommendation." A review of the referenced portions of the '377 Hosken provisional fails to identify any discussion of implicit behavior beyond a cursory mention that information in the user profile table can be provided through implicit observation of the system based on users' actions. The '377 Hosken provisional requires that each item have a rating to make a recommendation, and the '377 Hosken provisional has no disclosure, enabling or otherwise, as to how users' actions is used to generate or otherwise provide a rating. In fact, the only description in which a rating is provided in the '377 Hosken provisional is in the case that the user provides an explicit rating. There is nothing in the portions of the '377 Hosken provisional that describes how a user profile rating is generated from implicit user behavior. Should the Examiner maintain her position in this regard, the Application respectfully requests the Examiner to identify the specific portion of the '377 Hosken provisional that the Examiner believes describes, and provides an explanation of, how a rating is generated from users' actions in the '377 Hosken provisional.

Furthermore, nothing in the examples provided in the '377 Hosken provisional and in Hosken '579 can be said to correspond to scoring each user log, the scoring for each user log

being responsive to a frequency of occurrence of the at least one query item identifier in the user log, a frequency of occurrence of the at least one query item identifier relative to all of the user logs and a query weight for the at least one query item identifier in the query, the user log score that is generated being based exclusively on detected user item selections and the at least one query item.

By way of a non-limiting example and in accordance with one or more embodiments, the present application generates a score for a user log score based on a sum across all query tracks of the query weight multiplied by the user's play log weight that is responsive to frequency of occurrence of the at least one query item identifier in the user log and a frequency of occurrence of the at least one query item identifier relative to all of the user logs. See paragraphs 246 to 248 of the publication of the present application, U.S. Publication No. 2002/0082901 (Dunning), as well as paragraphs 232 to 244 of Dunning.

In the "Collaborative Recommendation" example in the '377 Hosken provisional, a correlation is determined between the user and a user cluster. While the example refers to a correlation algorithm that performs this correlation, there is no description of how this algorithm determines a correlation between a user and a user cluster. After correlating the user with a user cluster, i.e., "Dance" in the example, the example proceeds to identify other users in the "Dance" cluster, by searching each user's user profile to identify whether the profile identifies the user as being a part of the "Dance" cluster. When another user, referred to herein as the "cluster user," is found to be a member of the identified cluster, the example calculates a correlation between the user and the cluster user. Again, the example fails to provide any enabling disclosure as to how the correlation is performed. If the calculated correlation between the user and the cluster user meets a threshold, the two users' profiles are compared to identify any items contained in the cluster user's profile that are not contained in the user's profile. At page 11, line 4 to page 12, line 6 of the '377 Hosken provisional, a correlation weight is determined for an item that is found in the cluster user's profile but not found in the user's profile. The correlation weight is determined to be the calculated correlation between the user's profile and the cluster user's profile multiplied by the rating of the item not found in the user's profile. Even assuming *arguendo* that a user profile corresponds to a user log (a point that is in no way conceded), a calculated rating weight for an item in a user profile, as is described in the "Collaborative

Recommendation” example, rates an item in the user profile, not the user profile. A rating weight calculated for an item contained in a user’s profile, i.e., the cluster user’s profile, cannot be said to correspond to the claimed scoring of a user log, which is responsive to a frequency of occurrence of the at least one query item identifier in the user log, a frequency of occurrence of the at least one query item identifier relative to all of the user logs and a query weight for the at least one query item identifier in the query.

For at least the foregoing reasons, the “Collaborative Recommendation” example fails to teach, suggest or disclose multiple elements of Claims, 1, 39 and 59 (and the claims that depend from Claims 1, 39 and 59).

Turning to independent Claims 34 and 93, among the features recited therein, is a feature of generating, based on a determined log likelihood ratio, a representation of a relationship between a first item and a second item based on implicit user behavior. In view of the above discussion, it should be clear that any rejection of the claims based on Hosken ‘579 is improper, and should be withdrawn. The § 103(a) rejection of Claims 34 and 93, and the claims that depend from these claims, based on Hosken ‘579 and Lazarus should be withdrawn.

With regard to Ward, which is being cited against Claims 15, 16, 46, 47, 73 and 74, in view of Ward’s November 15, 2000 filing date, it is necessary to provide a showing, in accordance with 35 U.S.C. § 112, first paragraph, that the subject matter of Ward relied upon in making the rejection is fully supported by the description found in one or more of the provisional applications to which Ward claims priority. Since no such showing has been made, the rejection based on Ward should be withdrawn.

For at least the foregoing reasons and the concessions made in the Office Action, the rejection based on Hosken ‘579 is improper, since significant portions of Hosken ‘579 relied upon to form the rejection lack enabling descriptive support in the ‘377 Hosken provisional. Furthermore, the remaining portions of Hosken ‘579 relied upon in the Office Action are missing multiple elements of each of the pending claims. Hosken ‘579 cannot therefore form the basis for a § 102 rejection, and cannot form the basis of a § 103(a) rejection. Withdrawal of the rejections based on Hosken is therefore respectfully requested. Furthermore and since both Lazarus and Ward fail to disclose at least the same claim elements as are missing in Hosken ‘579, the combinations of Hosken ‘579 with Lazarus cannot form the basis for a §103(a)

rejection of the claims. Furthermore, there has been no showing that Ward is even prior art to the claims of the present application.

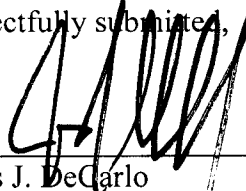
In view of the foregoing, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Should matters remain which the Examiner believes could be resolved in a telephone interview, the Examiner is requested to telephone the Applicant's undersigned attorney. Alternatively, since it is believed that the claims of the present application are in condition for allowance, the Examiner is respectfully requested to issue a Notice of Allowance at the Examiner's earliest convenience.

The applicant's attorney may be reached by telephone at 212-801-6729. All correspondence should continue to be directed to the address given below, which is the address associated with Customer Number 76058.

The Commissioner is hereby authorized to charge any required fee in connection with the submission of this paper, any additional fees which may be required, now or in the future, or credit any overpayment to Account No. 50-1561. Please ensure that the Attorney Docket Number is referenced when charging any payments or credits for this case.

Respectfully submitted,



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